



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/716,977 | 11/20/2000 | Alfred Earl Dunlop | 13-6 | 1939 |

7590

01/14/2004

Kevin M. Mason
Rayan, Mason & Lewis, LLP
Suite 205
1300 Post Road
Fairfield, CT 06430

EXAMINER

ZHENG, EVA Y

ART UNIT

PAPER NUMBER

2634

DATE MAILED: 01/14/2004

2

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/716,977

Applicant(s)

DUNLOP ET AL.

Examiner

Eva Yi Zheng

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-21, 23-30, 32-34 is/are rejected.
- 7) ☒ Claim(s) 10, 22, 31, 35 and 36 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 November 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: Fig.3, block 370. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claim 17 is objected to because of the following informalities: phase "bias current" should be changed to --bias voltage--.
Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
4. Claim 33 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claim 33, on line 8, a multiplexer was not described in the specification.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-9, 11-21, 23-30, and 32-34 are rejected under 35 U.S.C. 102(b) as being anticipated by Mittel et al. (5,610,558).

a) Regarding claim 1, as shown in Fig.6, Mittel et al. disclose a clock recovery circuit, comprising:

a first phase-locked loop (PLL) circuit (block 202) for generating an oscillator signal having substantially the same frequency as a transmitter clock (Col 3, L 43-47) and for generating a bias signal (212); and

a second PLL circuit (block 206) generating a clock output signal (216), wherein said second PLL circuit is controlled by said bias signal generated by said first PLL circuit in a first mode (Col 4, L 1-4) and wherein said second PLL circuit has a second mode wherein said second PLL has an initial frequency determined by said bias signal and whereby said second PLL substantially

instantaneously adjusts said clock output signal to phase changes of data in an input data stream. (reference signal 147)

b) Regarding claims 2,14, and 27, as shown in Fig.1, Mittel et al. disclose a transition between said first and second modes is controlled by a transmission gate. (block 137)

c) Regarding claims 3, 15, and 28, as shown in Fig.1, Mittel et al. disclose a transition between said first and second modes is controlled by a switch. (block 137)

d) Regarding claims 4, 16, and 29, as shown in Fig.6, Mittel et al. disclose a transition between said first and second modes is controlled by a device that selectively imposes a bias current from said first PLL (signal 212) to said second PLL (signal 214).

e) Regarding claims 5, 17, and 30, Mittel et al. disclose a transition between said first and second modes is controlled by a device that selectively imposes a bias voltage from said first PLL to said second PLL. (Col 1, L26-29)

f) Regarding claims 6 and 18, Mittel et al. disclose the first PLL circuit is tuned to a local clock that operates at substantially the same frequency as a transmitter clock. (Col 3, L 43-47)

g) Regarding claims 7, 19, and 32, as shown in Fig.6, Mittel et al. disclose an elastic storage circuit for generating a jitter-compensated clock and data output. (block 208)

h) Regarding claims 8, 9, 20, and 21, Mittel et al. disclose the second mode is activated upon receipt of incoming data. (Col 4, L 1-11)

i) Regarding claims 11 and 23, Mittel et al. disclose the first and second PLLs operate at different frequencies in accordance with one or more predefined ratios. (Col 5, L 63- Col 6, L 2)

j) Regarding claims 12 and 24, Mittel et al. disclose the second PLL circuit generates said clock output signal using transmitted non-predetermined data. (Col 2, L59-61)

k) Regarding claim 13, Mittel et al. disclose a method for recovering a clock signal from an incoming data stream, comprising: as shown in Fig. 6,

tuning a first phase-locked loop (PLL) circuit (block 202) to a local clock signal (136) operating at substantially the same frequency as a transmitter clock (Col 3, L 43-47), wherein said first PLL circuit produces a bias signal (212);

applying said bias signal to a second PLL circuit (block 206) in a first mode, said second PLL circuit generating a clock output signal in said first mode having a frequency determined by said bias signal (216); and

removing said bias signal from said second PLL circuit in a second mode, wherein said second PLL circuit has an initial frequency in said second mode determined by said bias signal and whereby said second PLL substantially instantaneously adjusts said clock output signal to phase changes in said incoming data stream in said second mode. (Col 4, L 1-4; reference signal 147)

l) Regarding claim 25, Mittel et al. disclose a clock recovery circuit, comprising: as shown in Fig. 6,

a first phase-locked loop (PLL) circuit (block 202) for generating an oscillator signal having substantially the same frequency as a transmitter clock (Col 3, L 43-47) and for generating a bias signal (212); and

a second PLL circuit (block 206) generating a clock output signal (216), wherein said second PLL circuit has an initial frequency determined by said bias signal (abstract) and wherein said second PLL circuit substantially instantaneously adjusts said clock output signal to phase changes of data of an input data stream when said input data stream is present. (signal 147; Col 4, L 1-4)

m) Regarding claim 26, as shown in Fig. 6, Mittel et al. disclose a clock recovery circuit, comprising:

first means for generating a first oscillator signal having substantially the same frequency as a transmitter clock (136, and 202; Col 3, L 43-47);

means for generating a bias signal (136,145, 302,306, 308,and 312);

second means for generating a clock output signal having an initial frequency determined by said bias signal and substantially instantaneously adjusting said clock signal output signal to phase changes of data in an input data stream; (147, 316, 320, 322, and 326) and

means for selectively imposing said bias signal from said first means to said second means (125, 204, and 330).

n) Regarding claim 34, as shown in Fig. 6, Mittel et al. disclose the clock output signal (216) corresponds to phase changes of data of an input data stream (147) in a second mode when said input data stream is present.

Allowable Subject Matter

7. Claims 10, 22, 31, 35, and 36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eva Yi Zheng whose telephone number is 703-305-8699. The examiner can normally be reached on 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 703-305-4714. The fax phone number for the organization where this application or proceeding is assigned is 703-879-9306.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

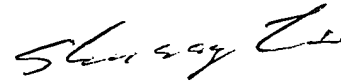
Hand-delivered responses should be brought to Crystal Park II, 2121

Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Eva Yi Zheng
Examiner
Art Unit 2634

January, 7, 2004



SHUWANG LIU
PRIMARY EXAMINER